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March 31, 2020

David Hutchins
Chairman
Citizens for Labor and Environmental Justice
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Subject: Responses to comments received on February 13, 2020, from the Citizens for Labor and Environmental Justice

Dear Mr. Hutchins:

This letter provides the U.S. Environmental Protection Agency (EPA) responses to the Citizens for Labor and Environmental Justice (CLEJ) comment letter received by EPA on February 13, 2020 and dated June 11, 2019. The CLEJ comments addressed EPA's April 2019 proposed plan for an amendment to the Butte Priority Soils Operable Unit (BPSOU) record of decision (ROD). For clarity, the individual points of the letter are excerpted (in the order found in the letter) and are followed by the EPA response. The CLEJ comment letter has been given an identification number (#102) and will be included in the administrative record for the 2020 BPSOU Record of Decision. That document is available at the Montana Tech Library and online at: www.epa.gov/superfund/silver-bow-butte.

CLEJ Comment #1

Page 1. "The Environmental Protection Agency's proposed plan for amendment to the Butte Priority Soils Operable Unit (BPSOU) Record of Decision does not adequately address Environmental Justice (EJ). This is an important omission that by EPA guidance must be a consideration. There are many technical elements of the plan that deserve scrutiny, however other groups and individuals will concentrate on these aspects. We concur with many of their concerns, but we will focus our comments within our mission of Environmental Justice.

"The EPA defines Environmental Justice as: the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development,

implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys:

- the same degree of protection from environmental and health hazards, and
- equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

It is the belief of Citizens for Labor and Environmental Justice (CLEJ) that neither of these criteria have been met in the proposed plan or the subsequent community involvement process.

“By the EPA’s definitions Uptown Butte is an ‘Overburdened Community,’ one with a low-income and indigenous populations and disproportionate exposure to environmental harms or risks. Notice the map included here from the EPA’s EJ screen tool. It is clear the Operable Unit is comprised of a disproportionately low-income population. Yet the Proposed plan, nor the ROD, account for the effects of contamination and remediation on these vulnerable populations.”

EPA Response

The proposed plan and the ROD do account for the effects of contamination and remediation on overburdened communities. As EPA states in Section 2.13 of the 2020 Responsiveness Summary, which is attached to the 2020 BPSOU Record of Decision Amendment, EPA Region 8’s Environmental Justice (EJ) program for the BPSOU is focused on achieving equal environmental protection so no segment of the population, regardless of race, ethnicity, culture, or income, bears an undue burden of environmental pollution, and ensuring that the benefits of environmental protection are shared by everyone. Region 8’s EJ team works toward advancing EJ by focusing on making a difference in those communities through connecting with, supporting, building the capacity of, and leveraging resources of both internal and external partners. We are happy to consider any constructive suggestions to improving outreach to the EJ community in Butte. Additionally, much of the outreach and education described in the CLEJ comments and other community comments alike will be incorporated into a revised Residential Metals Abatement Program (RMAP) plan and/or an updated BPSOU community involvement plan, which EPA is preparing and which will include an updated EJ section.

CLEJ Comment #2

Page 1. “Ways in which the Uptown EJ community does not experience the same degree of protection:”

EPA Response

All residential properties in the BPSOU will be assessed and abated, if abatement is warranted. As a result, the same degree of protection is offered to all residential properties in BPSOU.

CLEJ Comment #3

Page 1.

- “Many low-income residents rent their homes and do not have access to the Residential Metals Abatement Program (RMAP).”

EPA Response

Multiple comments were received on this topic and are addressed in Section 2.23 of the 2020 Responsiveness Summary. The RMAP is available to all residential property owners regardless of income. To respond to disparities in participation rates, the RMAP is now taking a more aggressive stance on property owners who have not responded to requests for participation. The program requires that all residential properties within the BPSOU must be sampled, assessed, and abated within a reasonable time frame if action levels for arsenic, lead, and mercury are exceeded. This includes the cleanup of attic dust in accessible attic spaces. The 2006/2011 BPSOU Record of Decision specifies that all residential properties within the BPSOU must be sampled. Prior to conducting any sampling or cleanup activities at a property, access must be obtained from the property owner and EPA understands there are property owners reluctant to participate. Butte-Silver Bow County is making a good faith effort to get all property owners to participate in the RMAP, regardless of income levels, using all means (i.e., mail, email, phone calls, and knocking on doors) to gain access. After several attempts, if Butte-Silver Bow County cannot obtain access, properties will be referred to EPA and the Montana Department of Environmental Quality (DEQ) for further action, including direct contact with the landowner by the agencies and the possibility of filing of a notice with the landowner's property records indicating that the property has not been sampled or remediated. See further details about this approach in the *BPSOU Institutional Controls Implementation and Assurance Plan*, (Appendix E to the proposed Consent Decree).

CLEJ Comment #4

Page 1.

- “RMAP outreach relies on media and methods not necessarily accessible to EJ communities.”

EPA Response

The *BPSOU Institutional Control Implementation and Assurance Plan* (Appendix E to the proposed Consent Decree) contains new methods for addressing rental properties where access is denied, including agency follow-up actions and deed notices. These methods have been effective at other Superfund sites having residential cleanups, and may result in a better rate of access and outreach to low-income renters. EPA will require an updated EJ section in the revised RMAP plan that will be developed under a revised unilateral administrative order (UAO) and will explore better ways to communicate with the EJ community, including communications about the RMAP.

CLEJ Comment #5

Page 2.

- “The health studies do not recognize the differential effects of contaminants on EJ communities. A myriad of factors, including lower access to healthcare, make these communities more vulnerable.”

EPA Response

EPA's risk assessments are intended to be protective of even sensitive subpopulations. For instance, the language in the risk assessment guidance defines the chronic reference dose as "An estimate (with uncertainty spanning perhaps an order of magnitude or greater) of a daily exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of deleterious effects during a lifetime." Other examples of this margin of safety include basing risk decisions on the reasonable maximum exposure values for the population of interest to ensure that decisions are adequately protective of the populations of interest, including those within such populations that are more vulnerable.

As noted in Section 2.25.2 of the 2020 Responsiveness Summary, community awareness, education, and medical monitoring are also critical components of RMAP, and these actions are required in the amended BPSOU Record of Decision. The RMAP uses community awareness and education in conjunction with medical monitoring to target affected and sensitive individuals and prioritizes sampling and remediation in locations where these people live. Awareness and outreach components include distribution of educational materials, periodic mailings, information on the Butte-Silver Bow County website, information provided at public meetings, and using local media outlets. Outreach also relies on the medical community, particularly pediatricians and the WIC program, to inform the public about risk, health monitoring, and other RMAP activities. Community outreach also includes participation in community health fairs and family fairs. Additionally, much of the outreach and education described in the comments will be incorporated into a revised RMAP plan and/or an updated BPSOU community involvement plan.

CLEJ Comment #6

Page 2.

- "Many of the insufficiently reclaimed areas are near low income neighborhoods and are frequented by children from those communities."

EPA Response

The amended BPSOU ROD addresses insufficiently reclaimed areas. Section 2.21 of the 2020 Responsiveness Summary addresses Reclamation.

"EPA acknowledges that certain reclaimed sites on the Butte Hill still have substandard vegetation coverage or unsightly appearance, but, critically, the caps are still performing their primary function of separating the wastes from the environment. The Butte Reclamation Evaluation System (BRES) evaluations performed by Butte Silver Bow will evaluate site cover conditions, erosion conditions, site edge conditions, and the presence of exposed waste, barren areas, and existing vegetation. BRES evaluations are conducted by Butte Silver Bow on an ongoing basis, and the current Butte Silver Bow evaluation team is responsive when cap integrity has been compromised. Poor vegetation conditions at sites are being identified, and actions are being taken to improve these conditions through vegetation/reclamation improvement plans. In addition, several additional insufficiently reclaimed or under reclaimed sites are specifically described in Attachment C to the statement of work attached to the BPSOU consent decree.

These will be evaluated and capped and revegetated appropriately in accordance with the terms of that statement of work attachment. Finally, some sites (usually some of the earliest that were reclaimed under non-Superfund authority) will have to be evaluated under the solid media management plan. Potentially, reclamation will have to occur again."

A solid media management plan will be developed under the consent decree, which will better define the process and will provide for best management practices like signage. Most BRES sites are private property and, for a variety of reasons, children and ATV riders should not be trespassing. Additionally, the solid media management plan will provide for a way to assess newly discovered sites, and reclamation of those sites if warranted.

CLEJ Comment #7

Page 2.

- "Many vacant lots remain unreclaimed and are often play areas for children of EJ communities."

EPA Response

The SMMP to be developed under the proposed consent decree will address this issue. Residential and commercial lots will be addressed differently. The solid media management plan will include a logic diagram that will identify a process for newly discovered sites, and reclamation of those sites if warranted.

CLEJ Comment #8

Page 2.

- "Recreational opportunities are limited for EJ communities; loss of free and accessible natural features affect EJ communities disproportionately."

EPA Response

Remediation efforts to date at the BPSOU have created extensive accessible open spaces, such as the Copper Mountain Complex; the trail systems in upper Butte near the Continental Mine; the trail system on cleaned up railbeds throughout Butte; and numerous parks, baseball fields, and play areas. EPA will continue to work with Butte-Silver Bow County to open other areas remediated under the Superfund program for recreational use for all residents of Butte, including EJ communities.

CLEJ Comment #9

Page 2.

"Ways the Uptown EJ community does not experience equal access to the decision-making process:"

- "The long-time federal gag order and ongoing lack of transparency are all but impenetrable to EJ communities."

EPA Response

EPA has endeavored to make the Superfund process as transparent as possible while complying with the federal district court's order regarding settlement negotiations. Outreach leading up to and in support of the proposed plan has included:

- January 26, 2018 – EPA's Region 8 Administrator announced a conceptual settlement framework for completing the BPSOU remedial actions.
- April 2018 – The United States and Atlantic Richfield obtained a modification of the federal district court's confidentiality order, allowing consent decree parties to share information about the further cleanup plans for the BPSOU.
- May 30, 2018 – EPA publicly released a detailed *Further Remedial Elements Scope of Work* (EPA 2018b). Fact sheets were provided to explain various parts of the conceptual settlement framework and a public comment period was announced.
- May 30 and June 12, 2018 – Two public meetings were held at Montana Tech to further explain the *Further Remedial Elements Scope of Work* and to answer questions.
- July 11 and 12, 2018 – An information booth was staffed during the Folk Festival where presentation materials available from the May/June public meetings were displayed.
- August 7, 2018 – Two community design workshops were held by Atlantic Richfield in Butte.
- August 30, 2018 – The second set of the community design workshops was held by Atlantic Richfield.
- November 1, 2018 – The final community design workshop was held by Atlantic Richfield and presented the outcome of the two-part design charrette workshops.
- April 11, 2019 – EPA released a proposed plan for amending the 2006/2011 BPSOU Record of Decision, placed the administrative record in the Montana Tech Library and on EPA's website, published a notification of the availability of the proposed plan and administrative record in the *Montana Standard* and the *Butte Weekly*, and distributed a fact sheet.
- April 23, 2019 – EPA held the first of two public meetings on the proposed plan at which EPA and DEQ answered questions and took formal public comment.
- May 20, 2019 – Atlantic Richfield and Butte-Silver Bow County shared their joint end land use plan describing amenities planned for the area above the confluence of Silver Bow Creek with Blacktail Creek.
- May 23, 2019 – EPA held the second of two public meetings on the proposed plan.
- May 30, 2019 – Butte-Silver Bow County hosted a listening session to summarize EPA's proposed plan.
- September 2019 – EPA awarded the Citizen's Technical Environmental Committee (CTEC) an amended grant award to provide for CTEC's evaluation of end land use possibilities in the area above Silver Bow Creek's confluence with Blacktail Creek to Texas Avenue, including the possible construction of a lined, meandering creek in this area.

CLEJ Comment #10

Page 2.

- “Many aspects of the revised RMAP plan are of particular interest to EJ communities, yet the release has been postponed until after the comment periods end.”

EPA Response

The RMAP plan will be revised and will be implemented pursuant to UAO for the BPSOU. The first step in this revision process will be the creation of a draft revised plan, which will be a publicly available document. EPA will make efforts to involve the EJ community and other interested parties in the review of the draft plan, and will make comments on the plan in consultation with DEQ before it is revised. EPA agrees that the EJ community has particular interests in how the RMAP plan is revised. To this end, all draft documents are sent to CTEC. CTEC has been the venue for draft documents. EPA has committed to having one representative from CTEC involved with design documents and draft/revised UAO work plans. CTEC’s main objective/goal under its technical assistance grant from EPA is to have a technical advisor disseminate Superfund information to the community. CTEC’s technical advisor will attend the design meetings and will report back to CTEC. CTEC will provide input to the technical advisor to bring back to the technical group.

CLEJ Comment #11

Page 2.

- “The public meeting/comment solicitation process is not conducive to engaging EJ communities. Many have familial and occupational obligations that prevent attending such meetings.”

EPA Response

Normally, a proposed plan public comment period is 30 days. EPA started with 60 days and included an additional 30 days (for a total of 90 days) for comment on the proposed plan. Several avenues were given for comment on the proposed plan for the BPSOU Record of Decision Amendment. These included the ability to give oral comments at two public meetings held in the evening, or to comment by email or letter. Notices of these opportunities were placed in the *Montana Standard* and the *Butte Weekly*. The *Butte Weekly* is a newspaper that is distributed without charge.

CLEJ Comment #12

Page 2.

- “The technical documents that define the remedy are not understandable to many in the EJ communities.”

EPA Response

Technical documents addressing Superfund issues are, by nature, highly technical. EPA produced numerous fact sheets and newspaper inserts summarizing the technical aspects of the

project to help the public to understand various aspects of the project. EPA has also funded CTEC through an ongoing technical assistance grant; their main objective/goal is to have a technical advisor disseminate and explain Superfund information to the community.

CLEJ Comment #13

Page 2.

- “The most impacted residents are not consulted and are often in the EJ communities. ie the neighborhoods around the Grove gulch, Northside tailings, and Digging’s East were not consulted on remediation that will have significant impacts on their communities.”

EPA Response

Under Superfund, formal consultations are not typically held with specific communities. However, in an effort to engage local residents, EPA held public meetings, produced fact sheets, participated in newspaper and radio interviews, met with local organizations, developed other informational materials, and made all information available on its website. EPA will continue to work with the neighborhoods surrounding the areas where new remediation will occur as remedial design proceeds and remedial action plans are developed for these areas. Additionally, the consent decree proposes many work plans to be developed and those plans will describe the public processes, notifications, and engagement that will be conducted during any remedial action in and around EJ communities.

CLEJ Comment #14

Page 2.

- “Health concerns regarding children playing in and around stormwater basins have not been addressed.”

EPA Response

Section 2.24 of the 2020 Responsiveness Summary addresses the issue of children playing in stormwater ponds:

“Information on the assumptions used in EPA’s recent stormwater basin risk evaluation, including the specific exposure values used to estimate short-term risks, were presented in a detailed technical memorandum prepared in April 2019, which is part of the administrative record for the 2020 BPSOU Record of Decision Amendment. Stormwater basins are engineered structures used to protect the environment and are not meant for recreation. Thus, the stormwater evaluation focuses on infrequent exposures of limited duration.

“The 1994 baseline risk assessment for lead and the 2003 Walkerville residential site final human health risk assessment also provide the detailed exposure frequency and duration assumptions that support the chronic risk estimates, which are more continuous in nature and the primary basis of the 2006/2011 BPSOU Record of Decision. The stormwater basin risk evaluation technical memorandum and the site human health risk assessment documents are

available in the administrative record for the amendment if additional details are desired on specific exposure input parameters and assumptions.”

The fact sheet prepared to address risk from stormwater ponds, *EPA Completes Risk Review of Proposed Stormwater Basins*, is located at <https://semspub.epa.gov/work/08/100006201.pdf>.

CLEJ Comment #15

Page 2.

- “Surface water waivers failed to account for the human health risks borne by the EJ communities. Indigenous and low-income residents utilize our waterways for recreation and sustenance fishing at higher rates than average populations.”

EPA Response

Human health standards for in-stream surface water were not waived, only limited Montana aquatic life standards were waived (for acute copper and zinc standards, which apply only during storm conditions). The waived standards will be replaced with protective federal aquatic life standards, which will also protect human receptors who may recreate or fish in Blacktail Creek or Silver Bow Creek below its confluence with Blacktail Creek.

Human health risk assessments for the BPSOU did not consider subsistence fishers because EPA has seen no evidence of such populations on Blacktail Creek or Silver Bow Creek near the BPSOU. Montana Fish Wildlife and Parks regulations for the Western District (Butte is just inside that boundary) limit fishing to May through November, and fish populations in Blacktail Creek and Silver Bow Creek near the BPSOU are low due not only to metals concentrations but to documented impacts of nitrates and sediments upstream.

CLEJ Comment #16

Page 2.

- “The historical use and treaty rights of indigenous peoples were not considered in remediation negotiations.”

EPA Response

EPA has worked with the Confederated Salish and Kootenai Tribes, which has reserved treaty rights in the Butte area, in cataloguing protected tribal resources throughout the Clark Fork Basin. The Confederated Tribes received a substantial natural resource damage settlement in the 1999 Streamside Tailings Consent Decree, which it has used to improve natural resources on tribal reservation land. EPA will continue to work with the Confederated Tribes and any other Native American tribe that has protected tribal interests in the BPSOU area as remedial design occurs for the further cleanup actions described in the BPSOU Record of Decision Amendment.

CLEJ Comment #17

Page 2.

- “It is our opinion that the proposed plan needs to explicitly address environmental justice. Low income and indigenous communities need to be brought in to the decision-making process and protected equally. Potential actions include:”

EPA Response

As discussed in Section 2.13 of the 2020 Responsiveness Summary, although the proposed plan did not have a specific section for EJ, EPA Region 8’s EJ program is focused on achieving equal environmental protection so no segment of the population, regardless of race, ethnicity, culture, or income, bears an undue burden of environmental pollution, and ensuring that the benefits of environmental protection are shared by everyone. Region 8’s EJ team works toward advancing EJ by focusing on making a difference in those communities through connecting with, supporting, building the capacity of, and leveraging resources of both internal and external partners. EPA’s EJ efforts for the BPSOU have been reviewed several times by EJ program personnel, improved where necessary, and implemented. As noted previously, EPA intends to revise its BPSOU EJ plan as part of a revised CIP, as the new round of remediation work commences, to further address EJ involvement in the BPSOU remediation. EPA also intends to have an EJ section in the revised RMAP plan.

CLEJ Comment #18

Page 2.

- “Find ways to include EJ communities in the discussion, especially those most impacted by these decisions. Recognize previous attempts have failed and try new ways of meeting people where they are at.”

EPA Response

EPA is open to finding new ways to meet the needs of EJ communities and is happy to consider suggestions for improvement.

CLEJ Comment #19

Page 2.

- “A major goal of the EPA, in their EJ 2020 Action Agenda, is to work to eliminate disparities in childhood blood lead levels as an integral part of reducing lead exposure for all people. Reexamine lead action levels in Butte and bring them in line with current public health trends.”

EPA Response

Action levels are discussed in Section 2.1 of the 2020 Responsiveness Summary. Blood lead levels in Butte have decreased substantially since the RMAP began to be implemented, and are monitored by the medical monitoring committee in cooperation with the Butte-Silver Bow Health Department. The protectiveness of the BPSOU remedy, including its action levels, will be revisited in the 5-year review reports, which are required for the BPSOU under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) law. If there is indication that BPSOU action levels need to be re-examined, then EPA will do that.

CLEJ Comment #20

Page 3.

- “Codify more of the RMAP work-plan into the ROD Amendment. Include mechanisms for the systematic completion of all residences, prioritizing rentals with children present. Include testing and remediation of vacant lots and play areas, with residential action levels. Include a robust, long-term health study that analyzes the disproportionate effects on the most vulnerable populations.”

EPA Response

The 2020 BPSOU Record of Decision Amendment contains specific details on what the revised RMAP must accomplish, including many of the things listed in this comment. As noted above, the revised RMAP plan will be submitted by Atlantic Richfield and Butte-Silver Bow County under the UAO, and EPA will involve the public (including CLEJ) in the review of that document prior to submitting comments on the document back to Atlantic Richfield and Butte-Silver Bow County and before such a document is put into final, approvable form. Several members of CLEJ are also members of CTEC, and EPA encourages other CLEJ members to become members of CTEC to utilize this venue.

CLEJ Comment #21

Page 3.

- “When capping remaining and insufficiently reclaimed areas, prioritize areas in close proximity to EJ communities such as the swath East of Silver Bow Homes.”

EPA Response

The proposed consent decree contains a list of both under-reclaimed and unreclaimed sites that will be revisited under the remedial response. We appreciate CLEJ's suggestion for prioritization and will include that in our implementation plans for these actions.

CLEJ Comment #22

Page 3.

- “Reexamine risks for surface water recreation. Consider populations that may be exposed to metals at home, school or work, and where they play. Consider sustenance fishing. Look closely at EJ communities right on these waterways such as homes on Grove gulch or the neighbors to the future basins.”

EPA Response

The stormwater ponds fact sheet, *EPA Completes Risk Review of Proposed Stormwater Basins*, available at <https://semspub.epa.gov/work/08/100006201.pdf>, addresses much of this concern. EPA will continue to provide updated risk communication as we collect stormwater samples in the catch basins. As remedial design occurs, EPA will work closely with affected neighborhoods to ensure residents are informed and can give input to the construction and operation and maintenance plans for the remedial elements.

CLEJ Comment #23

Page 3.

- “Replace lost ecological and recreational resources, or at least plan for the eventual restoration.”

EPA Response

Lost uses are addressed under Montana’s Natural Resource Damage Program and CERCLA Natural Resource Damage provisions. They are not part of EPA’s remedial authority under CERCLA.

CLEJ Comment #24

Page 3.

- “Consult with local and regional indigenous people. Allow them meaningful input on the plan from start to finish. This is not only a treaty right, it is a fundamental component of environmental justice.”

EPA Response

EPA has worked with the Confederated Salish and Kootenai Tribes, which has reserved treaty rights in the Butte Area, in cataloguing protected tribal resources throughout the Clark Fork Basin. The Confederated Tribes received a substantial natural resource damage settlement in the 1999 Streamside Tailings Consent Decree, which it has used to improve natural resources on tribal reservation land. EPA will continue to work with the Confederated Tribes and any other Native American tribe that has protected tribal interests in the BPSOU area.

CLEJ Comment #25

Page 5.

Specific concerns of members of the Board of Citizens for Labor and Environmental Justice are as follows:

“1. Human Health:

- **a. Health Studies Committee membership:** CLEJ has asked for robust health studies related to BPSOU that will expand the breadth of what has been done in the past by including all the human health contaminants of concern and their synergism. Two PhD’s on the board of directors of CLEJ were invited to be part of EPA’s current health study committee; yet, neither Dr. John Ray nor Dr. Katie Hailer have heard when meetings will occur (or have already occurred). Please let them know so that they may attend and provide input to future meetings.”

EPA Response

The medical monitoring study process will be better described in the revised RMAP plan. Meeting notification will be the responsibility of Butte-Silver Bow County and Atlantic Richfield specific to a medical monitoring work group (who’s focus will be reviewing biomonitoring data collected under the RMAP). The Butte-Silver Bow Health Department has

recently developed an advisory committee to the Board of Health that will focus on all health concerns that may or may not be directly related to the Superfund human health contaminants of concern (lead, arsenic, and mercury).

CLEJ Comment #26

Page 5.

- “b. Credible independent scientists have published health research on issues in Butte. Research studies by Dr. Suzanne McDermott, PhD and by Dr. Katie Hailer PhD has been reviewed by EPA epidemiologist Charlie Partridge, by the State of Montana epidemiologists and by the Butte-Silver Bow Health Department. Despite acknowledgement of the validity (but different methodology use) before the BSB Council of Commissioners early this 2019 year, the BSB Health Department stated at the June 5, 2019 Council of Commissioners meeting that ‘there is no cancer problem in Butte.’ The statement made just prior to commissioners voting in favor of this ROD amendment, was made without qualification; i.e., other health studies besides that of DEQ did show elevated rates of neurological cancers. CLEJ is concerned that it is re miss for Superfund-related health officials to denigrate or omit data found in independent studies and asks that ALL scientifically produced health data on Butte Superfund issues be provided in understandable form to the citizens of Butte before a ROD amendment is promulgated.”

EPA Response

Although EPA has no control over the opinions voiced by other individuals or entities regarding Superfund-related topics, we can assure the CLEJ that no one, including Butte-Silver Bow County officials, have denigrated data because the data was not what the commenter wanted to hear—rather, they have indicated potential data flaws based on scientific review of that data and disagreed with the conclusions reached by the authors of the health studies cited by the commenter. Interest is high in continuing to review existing and emerging studies relevant to the BPSOU. For example, in a published letter (October 31, 2019) to the *Journal of the Society for Environmental Geochemistry and Health*, the authors cite studies conducted in 2012 and 2018, as follows:

“...the Montana Department of Public Health and Human Services (MDPHHS) examined cancer mortality and incidence in Silver Bow County from 1981 through 2016 using data from Montana death records and the Montana Central Tumor Registry (MDPHHS 2012 and MDPHHS 2018, <https://www.co.silverbow.mt.us/DocumentCenter/View/14098/Cancer-in-Silver-Bow-County>). MDPHHS found that the age-adjusted mortality rates for all cancers combined were slightly elevated in Silver Bow County compared to Montana for two of the four time periods examined, 1991–2000 and 2012–2016, and found incidence rates for all cancers combined were statistically the same or lower than for Montana during all time periods examined from 1981 through 2016. In January 2020, the Butte-Silver Bow Board of Health sanctioned the creation of a new committee that would focus on various studies about the health of Butte-Silver Bow residents. The new health study committee, which would be an advisory subcommittee to the Board of Health, would focus on studies such as the community health needs assessments conducted every three

years in Butte (the 2020 assessment process is under way), air quality studies, and cancer studies conducted by the Montana Department of Public Health and Human Services and others.

“Many of us are participating in a collaborative effort to update the prior studies on blood lead levels and cancer incidence and mortality in Butte, as well as a broader outreach to the community inviting input regarding health concerns and study design. Our Health Study and Biomonitoring Working Group will include the Davis study as another welcomed addition to the studies that seek to inform the status of health in the Butte area and how best to achieve public health improvements. The potential for exposure to Superfund related metals contamination is but one of the many factors that could contribute to risk of getting disease (incidence) and succumbing to disease (mortality) in the greater Butte area. In response to an EPA Administrative Order to conduct health studies in the Butte area every five years, the cross section of experts, agency managers, and actively engaged citizens who constitute the Health Study and Biomonitoring Working Group will continue to seek to understand the effectiveness of the Superfund remedy in making the greater Butte area a clean and healthful place to live. We encourage and welcome any and all contributions to this effort.”

In January 2020, the Butte-Silver Bow Board of Health sanctioned the creation of a new committee that would focus on various studies about the health of Butte-Silver Bow County residents. As described by Karen Sullivan of the Board of Health, “The new health study committee, which would be an advisory subcommittee to the Board of Health, would focus on studies such as the community health needs assessments conducted every three years in Butte (the 2020 assessment process is under way), air quality studies, and cancer studies conducted by the Montana Department of Public Health and Human Services and others, such as Suzanne McDermott, PhD, of the University of South Carolina, who has recently published two cancer studies on Butte-Silver Bow and Anaconda-Deer Lodge. McDermott is also co-author of a recent study focused on newborn meconium in Butte-Silver Bow, with a comparison group of newborns in South Carolina.”

The ROD Amendment expands the RMAP boundary further to encompass rural residential development. Coupled with the RMAP expansion, the revised RMAP plan will include components of all decision documents (e.g., 2006 ROD, 2011 ESD, 2020 ROD Amendment). Cleanup of residential properties that exceed action levels will be prioritized and will occur in concert with the assessment program. The revised RMAP plan will detail assessment and cleanup requirements and provide for a multipathway program.

CLEJ Comment #27

Page 5.

- “c. Mental Health: CLEJ requests EPA include a study of mental health effects of living within a past and current metal mining site and take actions that mitigate any adverse effects. Butte is among the highest areas in the State of Montana for suicides, and its demographics include that a fifth of its population are poor. Many are members of Indian Peoples Action and its Executive Director is on the Board of CLEJ. Nationally, studies

over the past ~20 years indicate detrimental health effects in people who live near or amid pollution. One such study is ‘Environmental Stressors: The Mental Health Impacts of Living Near Industrial Activity’
<https://journals.sagepub.com/doi/abs/10.1177/002214650504600306> which includes this Abstract:

“A growing literature examines whether the poor, the working class, and people of color are disproportionately likely to live in environmentally hazardous neighborhoods. This literature assumes that environmental characteristics such as industrial pollution and hazardous waste are detrimental to human health, an assumption that has not been well tested. Drawing upon the sociology of mental health and environmental inequality studies, we ask whether industrial activity has an impact on psychological well-being. We link individual-level survey data with data from the U.S. Census and the Toxic Release Inventory and find that residential proximity to industrial activity has a negative impact on mental health. This impact is both direct and mediated by individual perceptions of neighborhood disorder and personal powerlessness, and the impact is greater for minorities and the poor than it is for whites and wealthier individuals. These results suggest that public health officials need to take seriously the mental health impacts of living near industrial facilities.”

EPA Response

Mental health issues were addressed in Section 2.17 of the 2020 Responsiveness Summary, specifically comments 7.12 and 16.1. The 5-year medical monitoring study process will remain focused on elevated lead because elevated lead is more prevalent in Butte than other contaminants, including arsenic and mercury. Since 2010, however, arsenic and mercury biomonitoring have been offered under the RMAP when environmental sample concentrations in soil or dust are high enough to warrant such testing, which is a rarity. Any arsenic and mercury biomonitoring data obtained moving forward will be used in future health studies.

The community health needs assessments conducted routinely by the Butte-Silver Bow Health Department survey 400 county residents by landline and cellular telephone, and another 300 other “key informants” are asked their opinions about reigning health issues in the county. Concerns related to mental health (e.g., how people feel mentally, whether they have access to mental health providers) are addressed. The results of these studies are published every 3 years. Along with RMAP outreach personnel, the health department’s clinical environmental health employee will perform outreach to the community, including neighborhoods with barriers to health, to educate about lead and other contaminants and the opportunity the RMAP represents for residential testing.

CLEJ Comment #28

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- “d. Adults and Lead Exposure: While Butte area concerns about Lead exposure are, to date, understandably directed toward children, EPA does acknowledge that older people are at risk from long term exposure to Lead; e.g., this statement from <https://gispub.epa.gov/air/trendsreport/2018/#effects>: ‘HEALTH EFFECTS Depending

on the level of exposure, lead may harm the developing nervous system of children, resulting in lower IQs, learning deficits and behavioral problems. Longer-term exposure to higher levels of lead may contribute to cardiovascular effects, such as high blood pressure and heart disease in adults.’ Health studies in Butte must include adults.”

EPA Response

Soil action levels for lead are based on the most sensitive receptors: young children (under the age of 6 years) and women of child-bearing age. Basing remedial decision-making on the most sensitive receptors results in cleanups that are adequately protective of *all* receptors, including those that are less sensitive (e.g., adults). Thus, the focus of the RMAP on ensuring that children are not exposed to unacceptable levels of lead in soil is appropriately protective of *all* populations.

Information on studies done in Butte is provided in Section 2.24 of the 2020 Responsiveness Summary, and includes elevated disease rates in Butte and RMAP’s focus on monitoring and evaluating the effectiveness of the Superfund remedial action. The mission of the Agency for Toxic Substances and Disease Registry (ATSDR) is to prevent exposure and adverse human health effects and diminished quality of life associated with exposure to hazardous substances from waste sites, unplanned releases, and other sources of pollution present in the environment. To date, five ATSDR studies of disease prevalence have been conducted in Butte. An ecological study of skin cancer was published in 1992, which was followed by three surveillance studies of cancer mortality and/or incidence in 2002, 2012, and 2018. The fifth study was an ecological study that examined mortality rates of a broad range of diseases. None of these studies included individual level exposure data or occupational history, and all are surveillance or ecological studies that are hypothesis-generating studies primarily used to suggest future studies that should be done. None of these studies can be linked to causes of observed, elevated incidence or mortality. Hypothesis-generating studies that have been conducted so far do not support concerns about elevated cancer rates in Butte. Rates of diseases other than cancer are difficult to study because there are no registries that reliably document incidence. The community health needs assessments have provided the most useful source of information on prevalence of major disease categories. The findings of these assessments have been reviewed and will be included in current or future health studies. ATSDR may work with state and local health departments to conduct additional site-related public health assessments to better address general public health concerns regarding community mental health, fetal health and exposure, and cancer incidence rates for Butte if warranted.

The revised RMAP plan is a good place to include a robust community education plan and make adult testing available.

CLEJ Comment #29

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- “e. Biomonitoring of humans: The health risk assessment document accompanying the proposed ROD amendment indicates that environmental biomonitoring of nesting birds

will assure they are safe around the stormwater retention ponds and, if needed, measures will be taken to mitigate any adverse effects. CLEJ asks that biomonitoring of youngsters who access the area also be considered to assure NO component of this contaminated water has a detrimental effect on small humans, and if so, a mitigation plan be put into effect. That health risk assessment document contains no mention of immune-compromised individuals. CLEJ asks that a discussion of the most vulnerable humans be addressed in this Record of Decision amendment.”

EPA Response

This issue was addressed in Section 2.24 of the 2020 Responsiveness Summary. EPA agrees long-term monitoring of both ecological and human receptor populations is an important component of the remedy. The stormwater basin risk evaluation included an evaluation of potential exposures for wildlife and pets, and noted that future evaluations would assess the effectiveness of these basins in improving water quality and potential future exposures for local wildlife residing within the stormwater basins. Although future evaluations of human receptor populations are not discussed as part of the *Memo Screening Level Risk Evaluation for Proposed Stormwater Basins, BPSOU, Montana* (available at www.epa.gov/superfund/silver-bow-butte), the RMAP includes long-term monitoring of human receptor populations in Butte. Such monitoring efforts would account for potential exposures from all site-related sources including the stormwater basins.

CLEJ Comment #30

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- “f. Lead Standard: No exposure to Lead is acceptable according to the Centers for Disease Control. The up to 1200 ppm standard allowable for Lead in Butte is the highest in the nation. That is not ‘good enough for Butte.’ That standard was set at a time when inorganic Lead was thought to be less harmful than organic (or heated/smelted) Lead, since disproven. As smelting did occur in Butte, as well as in Anaconda, CLEJ believes EPA must lower the Lead level that is acceptable to that of Anaconda – 400 ppm – and redo any removal or capping actions where 1200 ppm was utilized.”

EPA Response

Action levels were discussed in Section 2.1 of the 2020 Responsiveness Summary. The combination of the RMAP and the comparatively low bioavailability of lead within BPSOU support the use of a 1,200 milligram per kilogram (mg/kg) lead cleanup level for the BPSOU as a protective remedy. The soil lead level of 400 mg/kg is a screening level developed by EPA to identify properties where additional investigation may be necessary as part of a risk assessment. This screening level is based on default exposure lead bioavailability assumptions. Bioavailability describes the amount of chemical that is absorbed into the body when an exposure medium such as soil is ingested. EPA’s default bioavailability assumption is that 60 percent of the lead in area soil would be bioavailable if ingested. However, actual bioavailability can be highly variable and depends upon site-specific factors such as the form of lead that is present and environmental conditions in the soil.

Because of this, EPA's risk assessment guidance recommends performing site-specific bioavailability studies. The BPSOU is unique in that EPA has performed multiple studies, including both laboratory studies and animal studies, to evaluate the site-specific bioavailability of lead in soil. These studies, which are described in more detail in the 2006 BPSOU Record of Decision, show that soil lead bioavailability in Butte is about three times lower than the default assumption. Because lead in Butte soils is less biologically available and because of the effectiveness of the RMAP, the site-specific soil lead action level for Butte can be set about three times higher than the default lead screening level of 400 mg/kg and can be as protective as the default level at generic sites. The reason EPA has adopted the default soil lead screening level of 400 mg/kg at other Superfund sites is that those sites do not have the benefit of site-specific information on bioavailability to deviate from the default assumption.

The BPSOU residential lead action level is based on EPA's human health risk assessment and specifically on the Integrated Exposure Uptake Biokinetic Model (referred to as the IEUBK Model) exercise, which was part of the risk assessment. This model used site-specific bioavailability data for lead in Butte to calculate the soil lead action level. See the 2006 BPSOU Record of Decision at Part 2, Section 7 for a detailed explanation of EPA's human health risk assessment efforts for the BPSOU. EPA has reviewed this action level several times since the original ROD. Additional protections for human health through the RMAP plan have been implemented in Butte and Walkerville. The lower bioavailability of lead, combined with a robust RMAP plan, supports the conclusion that a 1,200 parts per million (ppm) action level is fully protective of human health in Butte and Walkerville. The RMAP plan, which implements the program to meet the action levels for lead, arsenic, and mercury, is a unique plan that addresses not only lead in soils or indoor dust from mining sources, but also other lead sources in a given residential area such as lead paint or lead in water pipes. According to blood lead level data collected by the Butte-Silver Bow County Health Department, there are dramatically lowered blood lead levels in children in Butte. Medical monitoring studies find that rates of elevated blood lead levels in Butte children have declined dramatically over the study period. While we surmise that the RMAP has contributed to these declines, we cannot verify or quantify the magnitude of impact. EPA also requires a medical monitoring study to be conducted by the settling defendants every 5 years to systematically review human health biomonitoring data from Butte and Walkerville to verify that human health is protected from unacceptable risks at the BPSOU.

If EPA determines in the future that soil action levels for arsenic, lead, or mercury must be lowered, based on information it receives from the future medical monitoring studies or other sources, EPA's enforcement mechanisms for implementing remedial actions allow for EPA to take additional action under a UAO or a consent decree amendment to lower action levels and require that further cleanup actions are taken to protect human health. See Section 122(f)(6) of CERCLA, 42 United States Code § 9622(f)(6).

CLEJ Comment #31

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- “g. Residential Metals Abatement Program: CLEJ is pleased to see this program expanded to the entire BSB areas that may have been exposed to smelter smoke. Once again, CLEJ asks EPA to utilize its influence and, if necessary, its enforcement capability to assure renters of homes and apartments be given the same power over their own health that is given to people who own their own homes. Require landlords comply with RMAP’s mandate that inspections take place and, if needed, removal of Lead and Arsenic be accomplished.”

EPA Response

See the response to CLEJ Comment #3.

CLEJ Comment #32

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“h. Children and Stormwater Detention Ponds

- “Content of Stormwater: EPA’s risk assessment for children playing in stormwater ponds relies on estimates made of the concentrations of Lead, Arsenic, Mercury and Cadmium being so low as to not be able to harm small humans who may play in it or along pond shorelines. However, EPA has not addressed other contents of stormwater; e.g., volatile organic compounds, bacteria, etc. All urban storm sewers pick up bacteria from animal feces, and petroleum organics from breakdown of tarmac. These and other pollutants are swept into storm sewers in rain/snow melt events. Risk assessment for children must, therefore, include consideration of these potentially harmful substances by sampling and analysis of Butte stormwater.”

EPA Response

Evaluation of contaminants other than those identified in the 2020 Record of Decision is beyond the reach of Superfund. However, EPA will work with other health agencies (e.g., ATSDR and Butte-Silver Bow Health Department) to ensure non-COC contaminants (such as E. coli) do not pose health risks to the community. Play in stormwater basins will be highly discouraged because of risks unrelated to Superfund. EPA will have a plan in place for education, signage, and design opportunities that would discourage play in any storm basin.

CLEJ Comment #33

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- “Access to Stormwater: ‘Occasional’ access -- EPA is asked to define its often-used term ‘Occasional’ to say in plain language what specific frequency of access by children to stormwater ponds is the acceptable risk. Please state whether this includes youngsters and other people who may have compromised immune systems; i.e., just what level of exposure to the Contaminants of Concern would be acceptable for those whose bodies are least able to resist harm from the toxins in the stormwater. CLEJ position: CLEJ believes no level of access to stormwater ponds is acceptable for children. Signage directing people to stay away from the ponds and their shorelines is not adequate give the ponds. Other children may not see the planned signage or may be too young to read or understand it. If stormwater ponds are made a part of remedy, please provide attractive

barriers to keep small children from accessing both the contaminated water and the shorelines where ebb and flow will deposit lead and arsenic particles. In the ‘daredevil’ heritage of many Butte youngsters who may find it a challenge to experience playing in the ponds.”

EPA Response

This issue is addressed in Section 2.24 of the 2020 Responsiveness Summary, where several comments requested a definition of "occasional." EPA’s response is provided below.

“Occasional exposure: The expression “occasional” exposure is a simplified term that is used to convey an exposure scenario that is not continuous in nature. Residential exposure scenarios are often referred to as continuous exposures because risk estimates assume an exposure frequency of 350 days per year, whereas shorter term exposures, such as recreational or trespassing scenarios, are or can be referred to as occasional exposures. Information on the assumptions used in EPA’s recent stormwater basin risk evaluation, including the specific exposure values used to estimate short-term risks, were presented in a detailed technical memorandum prepared in April 2019, which is part of the administrative record for the 2020 BPSOU Record of Decision Amendment. Stormwater basins are engineered structures used to protect the environment and are not meant for recreation. Thus, the stormwater evaluation focuses on infrequent exposures of limited duration.

“The 1994 baseline risk assessment for lead and the 2003 Walkerville residential site final human health risk assessment also provide the detailed exposure frequency and duration assumptions that support the chronic risk estimates, which are more continuous in nature and the primary basis of the 2006/2011 BPSOU Record of Decision. The stormwater basin risk evaluation technical memorandum and the site human health risk assessment documents are available in the administrative record for the amendment if additional details are desired on specific exposure input parameters and assumptions.”

CLEJ Comment #34

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- “Who is included in the acceptable risk? The risk evaluation done by CDM Smith for both humans and wildlife makes no mention of the Environmental Justice communities of more vulnerable people who may be immune compromised. Please look into high risk individuals and assure stormwater risk assessment includes youngsters and older individuals who may have compromised immune systems, or who may be at increased risk from components in raw stormwater other than metals contaminants. Just what level of exposure to the Contaminants of Concern and other raw stormwater components would be acceptable for those whose bodies are least able to resist harm from the toxins in the stormwater. CLEJ position: We believe environmental justice dictates no level of exposure to stormwater ponds is acceptable for children and other at risk individuals. Signage directing people to stay away from the ponds and their shorelines is not adequate given the “daredevil” heritage of many Butte youngsters who may find it a challenge to experience playing in the ponds. Other children may not see the planned signage or may

be too young to read or understand it. If stormwater ponds are made a part of remedy, please provide attractive barriers to keep small children from accessing both the contaminated water and the shorelines where ebb and flow will deposit lead and arsenic particles.”

EPA Response

EPA will consider these issues during remedial design of the stormwater basins and ensure human safety issues are adequately addressed in any final design for the stormwater basins. See the response to CLEJ Comment #5 for a discussion of how protection of sensitive populations is built into EPA’s risk assessment and management process.

CLEJ Comment #35

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“II. OTHER BPSOU CONCERNS:

- “Stormwater Ponds effectiveness: Whereas stormwater retention ponds have proven to be 95% effective for removing Copper depending on the time the contaminated water settles, the question occurs, will this still be true when the stormwater is moving through ‘water features?’ CLEJ suggests a test be undertaken to determine if the mobilized stormwater provides at least the same result of 95% effectiveness. If case stormwater retention ponds do not meet expected goals, CLEJ would like stated in the ROD that a backup plan of alternatives will be undertaken to mitigate the problem.”

EPA Response

The issue of effectiveness is addressed in Section 2.29.3 of the 2020 Responsiveness Summary.

“EPA agrees that the stormwater retention/detention basins will not preclude the construction of a new lined creek in the corridor area. EPA, the State of Montana, Butte Silver Bow, and Atlantic Richfield have designated certain areas under remedy in support of that vision (see Addendum 1 to Attachment C to Appendix D, the statement of work, which is part of the consent decree). Additionally, EPA has awarded Technical Assistance Group funding to further support the understanding of how the BPSOU remedy will not preclude the vision.

“EPA also understands the concerns stated in these comments and will consider these and other factors during the remedial design studies and planning for the basins. The proposed stormwater retention/detention basins are necessary to handle storm flows and to remove contaminated suspended solids (via settling) while ensuring the basins are operated properly to be protective of the creek. A recirculation system would keep the water from becoming stagnant but would not adversely impact the ability of the basins to remove suspended solids. EPA expects that the basins will be designed and operated using, ‘accepted engineering methods available to support basin operations in a manner that achieves both efficient treatment and ensures capacity will be available to capture and treat stormwater from subsequent events’ along with balancing ‘basin design and operating parameters with site aesthetics and reuse opportunities for the community.’

“The basins in Silver Bow Creek above its confluence with Blacktail Creek will operate differently than the ones in Missoula Gulch. The Missoula Gulch basins act as retention basins, where water is almost never released and instead infiltrates to groundwater. Due to the groundwater conditions near the outlet of the existing stormwater infrastructure(s), the newly constructed basins will have to be lined to prevent contaminated stormwater from infiltrating and overloading the contaminated groundwater capture system and changing the groundwater flow regime. Thus, they will have to operate in part as detention and in part as retention basins, where after treatment via settling, the stormwater will have to be released to allow capacity for the next storm and water will not be stored indefinitely. Because the stormwater will be held for a short period to attempt to achieve optimal settling, the stormwater released may enter Silver Bow Creek under chronic, normal flow conditions. This discharged water will have to be monitored and evaluated in design to determine the optimal rate of discharge for variable storm events.”

CLEJ Comment #36

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- “b. One Additional Stormwater Pond: EPA and AR have argued there are no large enough areas on the Butte Hill to accommodate additional stormwater settling ponds, even small ones. The area north of McGruff Park is large and barren around the Andersen Shafts, and that area contributes to the extremely high exceedances of Copper standards in the Warren Avenue stormwater system pipe. CLEJ asks that a new retention pond be built to capture and settle metals from below the Belmont Mine to the Andersen Shafts. Channels could be created to bring stormwater from the western portion of that area into the retention pond. Overflow from this pond may continue to travel to the Silver Bow Creek corridor via the storm sewer located at Andersen Shafts. This new pond should be able to remove 95% of the Copper emanating from this area, just as such ponds have done in other areas of Butte. Creation of this pond at Andersen Shafts will decrease Copper in the Warren Avenue storm drain, and therefore, that flowing into Silver Bow Creek from the Civic Center area. Less Copper in the recirculating stormwater features in the corridor will help AR meet water quality standards, and it will mean less of any of the stormwater contaminants available to harm children or others who may access and recreate in the stormwater in the corridor.”

EPA Response

This issue is addressed in Section 2.29 of the 2020 Responsiveness Summary. EPA’s response includes:

“Regarding additional detention/retention basins (Comment 7.6), stormwater from the areas described will be collected and routed to the Diggings East stormwater detention/retention basin for treatment and management, thereby minimizing adverse effects to Silver Bow Creek. EPA will consider implementation of the suggested BMP at or near the Anderson Shaft but does not agree that it can be a replacement for the proposed catch basins.

Upgradient source investigations of contaminated stormwater sources are currently being conducted by EPA as part of the West Side Soils Operable Unit remedial investigation/feasibility study and may be addressed under the response actions selected for that operable unit.”

CLEJ Comment #37

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- “c. Air Quality: As a means of saving money on cleanup in Butte, in the 1990's Atlantic Richfield initiated the idea of ‘Historic Mining Landscape’ designations so that Historic Prevention laws would prevent some barren soils in Butte from remedial action. Today that phrase is accepted by all the negotiating parties toward this ROD amendment. The American Lung Association and the newspaper, USA Today, report annually on areas of high particulate matter as being dangerous. Both have named Butte, and USA Today even lists elementary, middle and high schools where air quality is poor. This extends the negative perception of Butte as an unhealthful place to live. CLEJ asks EPA to look into means of constraining air-blown dust off ‘Historic Mining Landscapes.’”

EPA Response

Air quality and source erosion were addressed in Sections 2.3 and 2.30 of the 2020 Responsiveness Summary, respectively. Specific air monitoring was requested by the Greeley Neighborhood Community Development Corporation. It was seconded by the Butte-Silver Bow County commissioners (comment #96.9). EPA’s response is as follows:

“Butte-Silver Bow Health Department and Montana Department of Environmental Quality (DEQ) Air Quality Division have an ongoing air quality monitoring program for the Butte-Silver Bow Air Quality District. Particulate monitoring is conducted at the air quality station located next to the Greeley School and includes:

- Continuous monitoring for PM 2.5 particulate concentrations using a Met One model 1020 Beta Attenuation Monitor (BAM-1020).
- Continuous monitoring for PM 10 particulate concentrations using a Met One model 1020 Beta Attenuation Monitor (BAM-1020).
- Episodic monitoring for PM 2.5 using three filter-based particulate samplers (BGI Model PQ-200, Met One SASS sampler, URG sampler). These samplers collect particulate matter on filters over 24-hour periods. The filters are then analyzed gravimetrically to determine the average airborne PM2.5 concentration during the sample period. The filters are analyzed by a laboratory for selected contaminants of concern. The episodic sampling is performed every 6 days, concurrent with EPA’s guidance.
- The air station includes a meteorological tower that measures wind speed, wind direction, and temperature.

The filters from the SASS and URG samplers are regularly analyzed for concentrations of arsenic, cadmium, copper, lead, and zinc. In addition to the metal concentrations analyses, chemical speciation analyses will be completed from November 1, 2019 through February 28, 2020. Speciation analysis data will be used to conduct chemical mass-balance modeling.

Additional air quality monitoring in Butte is being conducted by Montana Resources, LLP, which has contracted with Bison Engineering to conduct an ambient air quality study. The study consists of collecting and analyzing total suspended particulate and PM10. Bison engineering is performing the following monitoring:

- Episodic monitoring for PM10 using a second BGI PQ-200 sampler. The samplers will collect a 24-hour filter sample every 6 days on the EPA national 1-in-6-day sampling schedule. The sampler's particulate filters will be chemically analyzed for metal concentrations of arsenic, cadmium, copper, lead, and zinc.
- Total suspended particulate monitoring is being completed using a Met One E-Sampler continuous monitor that provides hourly concentration data. The particulate filter will be analyzed for metal concentrations of arsenic, cadmium, copper, lead, and zinc.

Montana Resources, LLP's ambient air quality study started March 4, 2019 and will be completed in an estimated 1 year. The monitors are on top of the Greeley School air monitoring station.

Montana Resources, LLP has agreed to use the data generated by the monitoring program in the following ways:

- To provide data upon which DEQ and Butte-Silver Bow County can base environmental decisions with respect to concerns expressed by Greeley School area residents
- To produce monthly and quarterly data summaries
- To provide data to requesting organizations or agencies

The additional data from the Montana Resources, LLP monitoring program, along with the data from the ongoing DEQ monitoring program, will provide DEQ and the Butte-Silver Bow Health Department information to complete a comprehensive assessment of the air quality in the Butte-Silver Bow Air Quality District."

BPSOU dust was also mentioned in regards to BRES, as follows:

"Record of Decision and implemented by Butte Silver Bow County in cooperation with the Clark Fork Watershed Education Program, one quarter of all reclaimed areas are evaluated each year on a revolving basis, and any problems with site capping or revegetation issues for the remedy are addressed. The BRES program provides a framework so that site managers can determine if the cover over the mine waste is intact and vegetation is adequate. If problems are found under the BRES evaluation, they are corrected under work plans approved by EPA. These covers are a barrier between people and the mine waste (preventing exposure by ingestion or dust inhalation) and also prevent rainfall from moving contamination from these areas into surface water through storm events. The BRES program has undergone significant revisions over the years, which has resulted in an improved BRES program that verifies long-term protection of human health and the environment within BPSOU."

CLEJ Comment #38

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- “d. Tailings Removals:
 - “Upper Silver Bow Creek: CLEJ is happy to see removals of tailings from the Silver Bow Creek corridor so that children and other vulnerable people will not be exposed to them in the future. As a member organization of the Restore Our Creek Coalition, our concern has been for future people with the environmental justice hope that undue financial or health burdens not be placed on them due to the fact this plan will allow tailings remain in the Silver Bow Creek corridor below the high groundwater level. We prefer that ALL the accessible tailings be removed so that the creek may repair itself over time.”

EPA Response

The 2020 BPSOU Record of Decision Amendment provides for extensive floodplain waste removals for Silver Bow Creek below its confluence with Blacktail Creek, and in the Blacktail Creek area including the Blacktail Berm. The reason for the expanded removals of streambank, sediment, and floodplain materials at Blacktail Creek and Silver Bow Creek below its confluence with Blacktail Creek, as outlined in the proposed plan and described more completely in the 2020 BPSOU Record of Decision Amendment, is to ensure the long-term protectiveness of the remedy. Section 2.35 of the 2020 Responsiveness Summary provides more detail on this issue.

CLEJ Comment #39

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- “Unremediated or Under-remediated soils: CLEJ believes these areas must be cleaned of hazardous metals before the desired Technical Impracticability Waiver should go into effect. Otherwise, the incentive for good remediation may not be effective.”

EPA Response

The up-front and limited waiver of acute copper and zinc is justified, as demonstrated by the technical impracticability analysis report *Surface Water Technical Impracticability Evaluation Report, Butte Priority Soils Operable Unit, Silver Bow Creek/Butte Area NPL Site*, which demonstrated that any combination of remedial actions, including the additional capping and revegetation required by the proposed consent decree, would fail to achieve compliance with the existing standards. EPA and DEQ will oversee the implementation of actions taken by the responsible parties and will ensure they are implemented correctly. Contaminants at these sites are not cleaned up or eliminated, but are capped with clean soils and revegetated to prevent or minimize exposure and releases during wet weather events.

Please do not hesitate to contact us if you need clarification on any of the above responses.

Sincerely,

**JOSEPH
VRANKA**

Digitally signed by
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Joseph Vranka, P.E.

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